

interrogator unit, the latter can send a command C which will be interpreted by the transponder TR1 in listening mode E, and then executed EXE. The transponder next sends a signal R in reply to the execution of the commanded operation, and then returns to a listening mode E in order to receive, if applicable, a new command C.

If no new command is sent by the interrogator unit during the time in listening mode E of the identified transponder TR1, the latter will resume the cyclic sending of its identifier Id after a random pause time.

The method of operation of the communication system according to the present invention thus allows an interrogator unit and a given transponder to converse for as long as necessary without risk of interruption by the sending of an identifier from another transponder.

The transponders used in the present invention are transponders having a memory which can be accessible for reading and for writing or for reading only. It is thus possible to read and/or write data contained in the transponder microcircuit memory.

According to a preferential embodiment of the invention, the interrogator unit sends an interrogation signal continuously with a power of around 1 watt and with an approximate frequency of 13.5 MHz for example.

The transponders used are well known by persons skilled in the art.

The transponders used in implementing the present invention have at least receiving and sending means, a memory, and an associated memory management module.

According to a variant embodiment, the transponders can be powered by the energy of the interrogation signal sent by the interrogator unit. They then modulate part of the received signal with a code generator in order to send their identification signal.

According to another variant, the transponders can have an independent power supply and generate their own identification signal.

The transponders can also use two distinct antennas for sending and receiving or one antenna only. A single antenna can also make it possible to generate the identification signal by modulating the reflectivity.

Advantageously, the transponders also have counting means in order to determine the pause times, the watching state durations D₁ and D₂ and the listening durations D of the identified transponder. These counting means can consist of a circuit dividing the interrogator clock or a circuit comprising a resistor and a capacitor.

The interrogator unit is also well known by persons skilled in the art.

The interrogator unit comprises an amplifier for the messages coming from the transponders, a circuit for extracting the data processed in a microprocessor and a clock generator.